Renewable Energy Working Group
DOE Room 6A-092
October 28, 2010
1:00 – 4:00 pm EST

Executive Summary

The working group meeting focused on the use of biomass and the idiosyncrasy of accounting for GHG emissions from biomass plants. The following presentations were made:

- Biomass Potential in Federal Agencies, Craig Hustwit, NETL
- Biomass Energy Assessments in VA, John Park, Dept of Veterans Affairs
- Introduction to GHG Accounting and Biomass Specific Issues, Jeremy Alcorn, LMI

In addition, Anne Crawley provided an update of the development of the FEMP Renewables Team Multi-Year Plan.

Meeting Minutes

Following a brief introduction and roll call of participants (on-site and webinar), Craig Hustwit (of NETL) conducted a presentation entitled on "Biomass Potential in Federal Agencies".

Biomass Potential in Federal Agencies

Mr. Hustwit discussed biomass efforts being funded with Recovery Act funds (through FEMP) and discussed the collaboration between DOE, FEMP and NETL. In FY 2010 the WoodyBUG Work Plan was developed to increase the use of woody biomass residues, available at U.S. Forest Service and BLM sites, to generate heat and power. The Woody Biomass Utilization Working Group (WoodyBUG) coordinates efforts to identify beneficial uses of woody biomass. Each National Forest and BLM site was sent a questionnaire. Responses were received from 120 sites. Some of the survey questions were:

- Does the site have an available biomass feedstock?
- Are there multiple biomass suppliers in the area?
- Is transportation infrastructure in place?
- Does the site have local environmental group support?

With only $600,000 of ARRA funding available for Biomass Feasibility Assessments, screening of the responses was required. Only 48 assessments were ultimately conducted. Forty sites were found to have viable biomass energy projects (most heat only or CHP). ESCP is the expected funding vehicle for these projects. If funded the projects would create an estimated 430 short term jobs (design and construction) and 280 long term jobs (operations).

Lesson Learned: Set time frames and due dates for information exchanges.

Some questions and answers followed.
Question: Will ESPCs and UESCs be able to participate?
Answer: Yes, PPAs are also a possibility. It should be noted that the Forest Service is looking to FEMP for guidance.

Question: Was the objective to make the site more self sufficient or to create energy for export?

Answer: Both. When the letter for the National Forest Service was drafted there were 2 roadmaps. We also wanted to know how much woody biomass the sites were generating and we also wanted to confirm on-site needs.

Question: Now that there are 40 sites with viable projects, is there a commitment to move forward?
Answer: This is a function of how much money can be committed to the project.

Question: What is the average funding for the projects? How big of a project do you expect it to be?
Answer: Most of these projects fall within the $0.2-$0.5 million range; however some projects are expected to be as large as $35 million. We are currently calculating the carbon footprint at each stage along the way. We have a picture of the best way to transport.

Question: How did you determine what biomass was accessible?
Answer: From woody biomass surveys, and from an evaluation of the available and projected roads. If there is going to be wood thinning then you need an access road.

Question: What are the major cost contributors?
Answer: Wood mass preprocessing and transportation costs are the most critical and costly. Given the local nature of the fuel source, biomass need not be transported far and therefore transportation costs did not drive these projects.

The next presentation was given by Mr. John Park of the Veterans Administration Energy Program Team.

Biomass Energy Assessments at the Veterans Administration

Mr. Park noted that in 2010 the VA funded 20 renewable energy projects totaling 26.6 MW at a cost of $151.4M, producing 43,743 MWh of energy. Of the 20 sites he noted the following renewable energy projects: 20 solar PV projects; 2 wind projects; and 6 CHP systems. He focused on a processed methane and Natural Gas fueled CHP Plant at Mountain Home VA Medical Center (TN) and the installation of CHP contracts for 7 sites. Fourteen additional studies were awarded in 2010.

Kevin DeGroat of the Antares Group discussed a 2 month feasibility study conducted on the Grand Junction VA Medical Center. Antares was contracted to study the feasibility of implementing conventional and biomass fueled heat and power (CHP) systems at Grand Junction VAMC. Mr. Park remarked that the VA has its own internal goal of 15% of energy from renewable, which is more than required by the executive order goal. Grand Junction consists of 22 buildings. The goal of the project was to work toward meeting various Federal mandates. The biomass option would reduce on-site fossil fuel consumption by 85% and result in approximately 60% of the total on-site energy being sourced from a renewable fuel source. The study considered patient and employee usage on a daily basis, site conditions, fuel sources available, environmental issues, net present value, and possible expansions. The site could get source energy credit for energy intensity for heat-only projects. Of the 44 questioners sent to potential biomass suppliers in the area, only 4 responded providing an estimate of $45/ton biomass.

Some questions and answers followed.
Question: How long have the other (existing) CHP plants been in existence?
Answer: 5-10 years. During FY 2010 we completed 38 CHP studies and awarded 14 more studies at the end of the year.

Question: Is all of the energy generated by PV and wind systems used on site?
Answer: We are NOT trying to sell energy back to the grid (although we are selling energy to a co-located Navy facility). He noted that medical centers are ideal candidates for implementation of co-generation since both steam and electricity are required.)

Question: Did the Grand Junction cost analysis take O&M costs into account?
Answer: No.

Question/Comment: Are there any electric offsets for the heat?
Answer: Not substantially.

The next presentation was given by Mr. Jeremy Alcorn of LMI.

Renewables are Carbon Neutral, Right?

GHG Accounting and Reporting Guidance recommendations were released by CEQ and OMB on October 6, 2010. The guidance discusses GHG emissions in 3 scopes:

Scope 1: Emissions from sources that are owned or controlled by a Federal agency.
Scope 2: Emissions resulting from the generation of electricity, heat, or steam purchased by a Federal agency.
Scope 3: Emissions resulting from sources not owned directly controlled by a Federal agency but related to agency activities.

He noted that emissions from biogenetical fueled CO_2 sources (biofuels, biomass) are treated a little "different" than other fuel sources as they are not counted against Scope 1, 2, or 3 targets (although the N_2O and CH_4 produced by their combustion IS counted against the target.. Agencies need to fully, but separately account for biogenetic emissions for each emission category. He also noted that bio-diesel is a mixed renewable or alternative biofuel. While all of the N_2O and CH_4 produced by combustion is counted, only the CO_2 attributed to the petroleum component of the fuel is counted against the target.

He reported that the total quantities of fuel/energy consumed in the renewable energy module should be reported in tab 2.2 and that non-renewable information should be reported in tab 3.2. He noted that the reporting workbooks are on the FEMP website and that reporting and GHG are interlinked. FEMP has submitted a series of workbooks that allow agencies to electronically submit their inventories.

Some questions and answers followed.

Question: If you are re-using bio from a waste water treatment plant does this count?
Answer: If you can combust the methane then the CO_2 biproducts is counted.

Question: Can the GHG reporting for FEMP fulfill the GHG reporting for EPA (under MRR)?
Answer: Environmental reporting for the EPA is done on a calendar year basis whereas GHG reporting for FEMP is conducted by Fiscal Years. However, the algorithms used for the FEMP tool are aligned with the algorithms used by the EPA so the results should be consistent.

Question: Shouldn't there be one tool or some way to align DOE and EPA reporting?
Answer: There actually have been many attempts to align these efforts. Again, both of these tools will yield the same result. It is better to use EPA's tool for EPA's reporting. If you are interested in a step-by-step guide of the tool please visit the webinar. One can dig down because it aligns with the technical support document that is on CEQ's website.

FEMP Multi-Year Plan Update

Anne Crawley, FEMP, gave a brief update on the status of the FEMP Renewables Multi-Year Plan. FEMP RE had held discussions with the DOE Solar Program, the Office of Electricity, the Biomass Program, the Woody Biomass Utilization Working Group, and NASA. Significant comments include:

- The DOE solar program is shifting toward utility scale projects.
- The goal is to move forward with a FEMP Multi-Year Plan that incorporates renewable energy progress across an array of offices and technologies.
- FEMP and the Solar Program produced a manual "Procuring Solar Energy: A Guide For Federal Facility Decision Makers". A webinar on this guide is planned for December 14th. The guide is available at http://www1.eere.energy.gov/solar/federal_guide.

Additional discussions will be conducted with other offices, both within and external to DOE.

Action Items

- It was noted that the phone connection was less than adequate. Efforts will be made to improve the connection for the next meeting.
- FEMP plans to hold a Feds only meeting in early December.
- GSA is moving forward with an ARRA funded PV installations on its roof. GSA would appreciate any lessons learned from other agencies.
- The next REWG meeting will be scheduled for February 2011.

RENEWABLE ENERGY WORKING GROUP PARTICIPANTS

On-Site Participants:

- Jeremy Alcorn, LMI
- Craig Hustwit, DOE/NETL
- Bobby Avary, Energy Matrix
- Kevin Comer – Antares
- David Comis – Sentech/SRA
- Cindy Steinfink – Sentech/SRA
- Boyan Kovacic – DOE/FEMP
- Damon Downing – Washington Gas
- Steve Pheiffer – Washington Gas
- Wayne Thalasinos – NASA
- Holger Fischer – NASA
- Ron Peacock – OPM
- Linda Wonnorberg – NASA
- David Garver – Synovision Solutions
- Anne Crawley – DOE/FEMP
- David Garver – Synovision Solutions

Webinar Participants:

- Anselmi, Robert - Veterans Administration
- Alsbrooks, Heidi - Antares Group Inc.
- Barr, Deborah - DOE Legacy Management
- Bourgoin, Chad- DOE
- Carignan, Brenda - USDA Property Management
- Chung, Won - Department of State
- Cooper, Chanda - Tennessee Valley Authority
- Critchfield, James - EPA
- Davis, Jerry - NREL
- Dehm, Diana - Sustainable Business Partnerships
- Downing, Damon - Washington Gas Company
- Dutta Roy, Pranab - PDR & Associates, Inc.
- Gorman, Steve - TCT/MPC
- Green, Bucky - EPA Sustainable Facilities Practices
- Guyer, Ryan - Department of State
- Hauk, David - Smithsonian Institution Energy Management Branch Chief
- Healey, Victoria - National Renewable Energy Laboratory
- Heine, James - ANL
- Hurt, Paul - TVA
- Johnson, Charles - Department of Agriculture
- Kerr, Brian - Federal Highway Administration
- Kincaid, Andrea - Defense Energy Support Center
- Lancaster, Kristin - Secretary of the Navy Energy Office, BAH
- Love, David - SunWize Solar
- Lowell, Mike - GSA
- MacDonnell, Tom - Public Schools of Colorado - Jefferson County - Lakewood CO
- McDonald, Alexis - Veterans Administration
- McKeral, CJ - US Bureau of Reclamation
- Motamedi, Soudeh - TMS, Inc.
- Radhakrishnan, Rakesh - Navigant Consulting
- Ralph, Cindy - Defense Energy Support Center
- Robinson, Gerald - LBL
- Rockenbaugh, Caleb - National Renewable Energy Laboratory
- Schmidt, Anneliese - Antares Group Inc.
- Sengezener, Tansu - PEPCO Energy Systems
- Shah, Chandra - NREL-Golden
- Shearer, Beth - Beth Shearer & Associates, Inc.
- Starkweather, Rebecca - Crowder Community College
- Sutton, Craig - Booz Allen
- Veas, Lindsey - HQ
- Vessey, Lauren - DOE
- Volkman, PaulHQ - US Army
- Wirdzek, Phil - Phil Wirdzek & Associates
- Wolbert, Paul

- Wolf, Scott DOE
- Zimmerman, David Tennessee Valley Authority